

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 07 March 2001 (07.03.01)	<b>Applicant's or agent's file reference</b> P-2389-PC
<b>International application No.</b> PCT/IL00/00349	<b>Priority date (day/month/year)</b> 15 June 1999 (15.06.99)
<b>International filing date (day/month/year)</b> 15 June 2000 (15.06.00)	
<b>Applicant</b> KISLEV, Hanoch et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

11 January 2001 (11.01.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b>  Claudio Borton Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF RECEIPT OF  
RECORD COPY

(PCT Rule 24.2(a))

From the INTERNATIONAL BUREAU

To:

EITAN, PEARL, LATZER & COHEN-ZEDEK  
Gav Yam Center 2  
Shenkar Street 7  
46725 Herzlia  
ISRAËL

Date of mailing (day/month/year) 01 August 2000 (01.08.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P-2389-PC	International application No. PCT/IL00/00349

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

GIVEN IMAGING LTD. (for all designated States except US)

KISLEV, Hanoch et al (for US)

International filing date : 15 June 2000 (15.06.00)

Priority date(s) claimed : 15 June 1999 (15.06.99)

Date of receipt of the record copy  
by the International Bureau : 03 July 2000 (03.07.00)

List of designated Offices :

AP : GH,GM,KE,LS,MW,MZ,SD,SL,SZ,TZ,UG,ZW

EA : AM,AZ,BY,KG,KZ,MD,RU,TJ,TM

EP : AT,BE,CH,CY,DE,DK,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE

OA : BF,BJ,CF,CG,CI,CM,GA,GN,GW,ML,MR,NE,SN,TD,TG

National : AE,AG,AL,AM,AT,AU,AZ,BA,BB,BG,BR,BY,CA,CH,CN,CR,CU,CZ,DE,DK,DM,DZ,EE,ES,  
FI,GB,GD,GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KP,KR,KZ,LC,LK,LR,LS,LT,LU,LV,MA,MD,  
MG,MK,MN,MW,MX,MZ,NO,NZ,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,TZ,UA,UG,US,UZ,  
VN,YU,ZA,ZW

## ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

☒ time limits for entry into the national phase

☐ confirmation of precautionary designations

☒ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer:  Catherine Massetti</p> <p>Telephone No. (41-22) 338.83.38</p>
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## F ENT COOPERATION TREA

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

EITAN, PEARL, LATZER & COHEN-ZEDEK  
Gav Yam Center 2  
Shenkar Street 7  
46725 Herzlia  
ISRAËL

Date of mailing (day/month/year) 12 July 2001 (12.07.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P-2389-PC	
International application No. PCT/IL00/00349	International filing date (day/month/year) 15 June 2000 (15.06.00)

## 1. The following indications appeared on record concerning:

☒ the applicant
 ☐ the inventor
 ☐ the agent
 ☐ the common representative

Name and Address GIVEN IMAGING LTD. Industrial Park Building 7b 4th floor 20692 Yokneam Ilite Israel	State of Nationality IL	State of Residence IL
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person
 ☐ the name
 ☒ the address
 ☐ the nationality
 ☐ the residence

Name and Address GIVEN IMAGING LTD. 2 Hacarmel Street Industrial Park Yoqneam 20692 Israel	State of Nationality IL	State of Residence IL
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Catherine Massetti Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING  
AMENDMENTS OF THE CLAIMS(PCT Rule 62 and  
Administrative Instructions, Section 417)

From the INTERNATIONAL BUREAU

To:

Commissioner  
US Department of Commerce  
United States Patent and Trademark  
Office, PCT  
2011 South Clark Place Room  
CP2/5C24  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUE

in its capacity as International Preliminary Examining Authority

Date of mailing (day/month/year)

07 March 2001 (07.03.01)

International application No.

PCT/IL00/00349

International filing date (day/month/year)

15 June 2000 (15.06.00)

Applicant

GIVEN IMAGING LTD. et al

The International Bureau hereby informs the International Preliminary Examining Authority that no amendments under Article 19 have been received by the International Bureau (Administrative Instructions, Section 417).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

Claudio Borton

Telephone No. (41-22) 338.83.38

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IL00/00349

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 359/363, 367, 385-387, 846, 853, 860, 867-869; 250/201.02, 201.03; 222.2, 239, 574; 362/335, 346, 347, 350;

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
curve\$ or ellip\$, window, illuminati\$, receiver or camera or ccd or detector, focal or focus\$ or foci, endoscope or capture

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3,745,325 A (HARVEY) 10 July 1973 (10/07/1973), see columns 2-3 and fig. 3.	1-3, and 5
X --- Y	JP 63-200115 B (YABE) 18 August 1988 (18/08/1988), see English abstract, pages 95-97 and fig. 1.	6-9, 11-12 --- 1-5, 10
Y	US 4,005,287 A (COOK) 25 JanUARY 1977 (25/01/1977), see columns 2-3 and fig. 1.	1-4 and 10
A	US 4,596,050 A (ROGERS) 17 June 1986 (17/06/1986), see the entire document.	1-12

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>		<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>	
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Date of the actual completion of the international search

31 OCTOBER 2000

Date of mailing of the international search report

27 NOV 2000

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

THONG Q. NGUYEN

Telephone No. (703) 308-4814

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IL00/00349

A. CLASSIFICATION OF SUBJECT MATTER:  
IPC (7):

A61B 1/00; G02B 21/06, 21/36, 5/08, 5/10; F21V 5/04, 7/00; G02B 27/40; H01J 40/14

A. CLASSIFICATION OF SUBJECT MATTER:  
US CL :

359/363, 367, 385-387, 846, 853, 860, 867-869; 250/201.02, 201.03; 222.2, 239, 574; 362/335, 346, 347, 350;

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 27 JUL 2001

WIPO

PCT

14

Applicant's or agent's file reference P-2389-PC	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IL00/00349	International filing date (day/month/year) 15 JUNE 2000	Priority date (day/month/year) 15 JUNE 1999
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant GIVEN IMAGING LTD.		

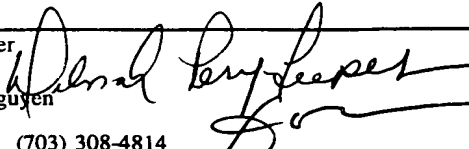
- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 11 JANUARY 2001	Date of completion of this report 19 JUNE 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer Thong Q. Nguyen 
Facsimile No. (703) 305-3230	Telephone No. (703) 308-4814

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/IL00/00349

**I. Basis of the report****1. With regard to the elements of the international application:\***☒ the international application as originally filed☒ the description:

pages 1-10 , as originally filed  
pages NONE , filed with the demand  
pages NONE , filed with the letter of \_\_\_\_\_

☒ the claims:

pages 11-12 , as originally filed  
pages NONE , as amended (together with any statement) under Article 19  
pages NONE , filed with the demand  
pages NONE , filed with the letter of \_\_\_\_\_

☒ the drawings:

pages 1-3 , as originally filed  
pages NONE , filed with the demand  
pages NONE , filed with the letter of \_\_\_\_\_

☒ the sequence listing part of the description:

pages NONE , as originally filed  
pages NONE , filed with the demand  
pages NONE , filed with the letter of \_\_\_\_\_

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**

- ☐ contained in the international application in printed form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

**4. ☒ The amendments have resulted in the cancellation of:**

- ☒ the description, pages NONE  
☒ the claims, Nos. NONE  
☒ the drawings, sheets/fig. NONE

**5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\*Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/IL00/00349

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. statement**

Novelty (N)	Claims	<u>2-3, 5, 7-9 and 12</u>	YES
	Claims	<u>1, 4, 6, 10 and 11</u>	NO
Inventive Step (IS)	Claims	<u>NONE</u>	YES
	Claims	<u>1-12</u>	NO
Industrial Applicability (IA)	Claims	<u>1-12</u>	YES
	Claims	<u>NONE</u>	NO

**2. citations and explanations (Rule 70.7)**

1. Claims 1, 4, 6, 10 and 11 lack novelty under PCT Article 33(2) as being anticipated by Cook (U.S. Patent No. 4,005,287).

Cook discloses an image reader for imagining and focusing an object into a receiving system. The image reader provided by Cook comprises two sections in which the front section comprises a set of illuminating elements and a receiving element, and the second section. While Cook does not clearly state about the optical components of the second section; however, it is well known to one skilled in the art that an image reader also comprises at least a transmitter and means for processing the image received by the section connected in the front section of the reader.

The front section of the image reader comprises an optical window (11) having a curved shaped which window defines an aperture for optically communicating with the outside of the section, and reflecting surfaces for reflecting light from the front section to an object located on the field of view of the aperture. A set of illuminating elements (18,19) disposed in a symmetrical with respect to the optical axis of the reader for providing light beams which light beams are reflected by the reflecting surfaces of the window to an object. The light reflected by the reflecting surfaces of the window are guided to the aperture and come to the object; as such, the internal reflections occurred by the reflecting surfaces are not reflected back to the receiving element disposed on center of the reader. The window (11) has a curved shape and thus defining a focal plane/curved correspondent to the shape of the window. It is noted that the claim does not provide any specific limitations of the shape of the window in claims 1, 4, 6, 10 and 11.

2. Claims 2-3, 5, 7 and 12 lack an inventive step under PCT Article 33(3) as being obvious over Cook (U.S. Patent No. 4,005,287) in view of Sousa et al (U.S. Patent No. 5,764,274).

The optical system as provided by Cook does not state that the window has an ellipsoid shape and the illuminating elements and the receiving element are disposed on or near the focal plane defined by the shape of the ellipsoid window. However, to use a window having an ellipsoid shaped in an optical device is clearly suggested to one skilled in the art as can be seen in the optical (Continued on Supplemental Sheet.)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/IL00/00349

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 1-12 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the claims are indefinite for the following reason(s):

a) Claim 1 is indefinite because the feature "the focal curve plane" (line 7) lacks a proper antecedent basis. The claim is also objected to because it is misdescriptive of the invention as taught in the specification. In particular, the specification has never taught that the system has more than one receiving element. As such, the recitation of "at least one receiving means (lines 1-2) is improper.

b) Claim 3 is objected to because it is unclear about the position of the receiving means with respect to the focal curve. In other words, what is the position of the receiving means which "is positioned on the focal curve plane but not in vicinity of the focal curve" (lines 1-2 of claim 3) in applicant's opinion?

c) Claim 11 is indefinite because each of the features "the digestive tract" (lines 2-3) and "the output" (line 3) lacks a proper antecedent basis.

d) Claim 11 is objected to for the same reasons as set forth in element c) above.

e) The remaining claims are dependent upon the objected base claim and thus inherit the deficiencies thereof.

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

**CLASSIFICATION:**

The International Patent Classification (IPC) and/or the National classification are as listed below:

IPC(7): G02B 21/06; B41J 2/385 and US Cl.: 359/363, 367, 385-387, 846, 853, 860, 867-869; 250/201.02, 201.03; 222.2, 239, 574; 362/335, 346, 347, 350;

**V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):**

system provided by Sousa et al. In particular, at column 6 and figures 6C-6D, Sousa et al suggest the use of an optical window having an ellipsoid shape. It is also noted that one skilled in the art will recognize that the illuminating elements and the receiving element must be disposed along the focal plane defined by the ellipsoid shape for the purpose of obtaining an optimum performance of the system. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system provided by Cook by utilizing an optical window having an ellipsoid shape as suggested by Sousa et al for the purpose of obtaining a system with better optic performance.

3. Claims 1-12 lack an inventive step under PCT Article 33(3) as being obvious over Yabe (JP reference No. 63-200115) in view of Okutsu (U.S. Patent No. 4,819,620) and Sousa et al (U.S. Patent No. 5,764,274).

Yabe discloses an endoscope having an illuminating system and an imaging system. The illuminating system comprises a set of illuminating elements disposed off-axis with regard to the optical axis of the endoscope, and a receiving element disposed on the optical axis of the endoscope for receiving light from an object illuminated by the illuminating elements. It is also noted that the endoscope comprises a section having at least a transmitter for receiving light from the receiving element and then forward such light to a processing apparatus. Yabe does not disclose that the front section having illuminating elements and receiving elements is disposed inside an optical window having an ellipsoid shape and reflecting surfaces. However, the use of an optical window having a curved shape for covering a front section of an endoscope is clearly known to one skilled in the art as can be seen in the endoscope provided by Okutsu wherein the illuminating elements and receiving element are disposed on a common plane. While Okutsu does not state that the shape of the window is an ellipsoid shape; however, such use of an ellipsoid shape is suggested by Sousa et al. In particular, at column 6 and figures 6C-6D, Sousa et al suggest the use of an optical window having an ellipsoid shape. It is also noted that one skilled in the art will recognize that the illuminating elements and the receiving element must be disposed along the focal plane defined by the ellipsoid shape for the purpose of obtaining an optimum performance of the system. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system provided by Cook by utilizing an optical window having an ellipsoid shape as suggested by Okutsu and Sousa et al for the purpose of obtaining a system with better optic performance.

**NEW CITATIONS**

US 5,764,274 A (SOUSA et al) 9 June 1998, see column 6 and figs. 6A-6D.

US 4,819,620 A (OKUTSU) 11 April 1989, see column 6-7 and figs. 13 and 16, for example.